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Land policy REVIEW

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UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF AGRICULTURAL ECONOMICS

Editorial Notes *and* EXPRESSIONS

With this issue, LAND POLICY REVIEW becomes a monthly, expands its circulation, and adopts a new format.

It has been published bimonthly since its start in 1938 as the successor to the Land Policy Circular. The Bureau of the Budget, upon the request of the Secretary of Agriculture, authorized the doubling of its free circulation list of 6,000. Many more agricultural workers now can get it.

But even this welcome increase will not make it possible to send it to everybody who is interested and will find it profitable. The answer lies in a larger number of paid subscriptions. Regulations determine who are eligible to get the publication free. To those who receive the REVIEW gratis, the suggestion is made that they encourage the expansion of the paid list so that the REVIEW may have the widest possible audience. Fifty cents sent to the Superintendent of Documents, Government Printing Office, Washington, D. C., will bring the REVIEW for a year.

The redesign is the work of Frank H. Mortimer, director of typography, Government Printing Office, and L. H. Frankewich, assistant director. To them, and to Jerome J. Henry, Zebedee LaPelle, and Walter F. Conway, of the Office of Information, Department of Agriculture, go many thanks for help and advice.

Contributors to this issue: Oris V. Wells is in charge of the Division of Program Development and Coordination, Bureau of Agricultural Economics. Sherman E. Johnson heads the Division of Farm Management and Costs. H. E. Selby is the Pacific coast area leader of the Division of Land Economics. H. R. Hochmuth and Earl R. Franklin are farm management workers in the far western area. H. M. Coverley is the assistant director, Rural Rehabilitation Division of the Farm Security Administration. Conrad Taeuber is a member of the Division of Farm Population and Rural Welfare. B. A. E. James P. Cavin is a senior agricultural economist in the Division of Program Development and Coordination.

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How Many FARMERS DO WE REQUIRE?

By ORIS V. WELLS. *Sooner or later in discussions of the agricultural situation the question comes up, How many farmers do we need? Answers depend upon the assumption from which one starts or the ends toward which one wants to move. Here are indicated several approaches to the problem and the range of answers obtained.*



LET US APPROACH the important question of the number of farmers needed in the United States by making two assumptions. First, that farming generally should be conducted on the same scale and farmers should have the same individual or family income as that which prevails in the Corn Belt, our most prosperous farm section. This assumption leads to the conclusion that only 5,182,000 farms and 24,202,200 farm people are needed, as against an estimated average farm population for 1936-38 of 31,774,000 and the 6,812,000 farms reported by the census for 1935. Almost all of such a reduction (of 1,630,000 farms and 7,571,800 farm

people) would come in the East Central States and in the Cotton Belt.

Second, that it is desirable—in order to lessen unemployment, or maintain national morals, health, and population, and stabilize the national culture—to maintain the largest possible farm population. Our premise then is that farm operations should generally be conducted on the scale and comparable income of our most densely populated commercial farming section, the Cotton Belt. This assumption leads to the conclusion that our farm land could support about 9,643,000 farms (2,831,000 more than in 1935), and 45,032,000 farm people (13,258,000 more than the estimated 1936-38 farm population).

But, instead of assuming technical operations conducted nationally on the same scale as in the Corn Belt, we could try to estimate the quantities of food and fiber needed for domestic consumption and foreign trade and the amounts of labor required for their production, assuming reasonably good farm management.

In an effort to arrive at an answer following this approach, the acreage of crops, the number of livestock, and labor requirements needed to produce enough agricultural commodities to supply domestic consumers with an "adequate diet at moderate cost" have been used as a starting point. A comparison of this diet with the actual consumption in 1924-

33 and in 1934-37 is given in table 2. These dietary requirements were translated into workers required on the basis of 2,000 work-hours per worker per year and the estimated hours' work required per unit of crops or livestock during 1924-29.

The estimated numbers of agricultural workers required to produce food sufficient for an adequate diet and nonfood products sufficient to maintain a reasonably high level of consumption for 131,000,000 people, the population estimate for 1940, together with enough commodities to meet prospective export demand, are:

For food	7,800,000
For nonfood	1,150,000
For export	1,050,000

TABLE 1.—Amounts available for family living and farm population, average 1936-38, and estimated number and distribution of farm people assuming per capita incomes equal to (1) the average for the United States, (2) the average for 8 Midwestern States, and (3) the average for 8 Southern States

	Gross farm income	Farm population	Income available for living		Estimated population if per capita income were equal to average for		
			Per capita	Total	U. S.	Corn Belt	Cotton Belt
	\$1,000	1,000	Dollars	\$1,000	Thousands of persons		
U. S.	9,513,225	31,774	173	5,493,893	31,757	24,202	45,032
N. East.	1,007,267	2,607	192	501,380	2,898	2,209	4,110
E. Central.	1,068,808	6,294	117	738,246	4,267	3,252	6,051
Southern.	2,075,228	10,805	125	1,354,022	7,827	5,965	11,099
N. Central.	3,512,853	8,652	212	1,838,535	10,628	8,099	15,070
Western.	1,849,069	3,416	311	1,061,710	6,137	4,677	8,702

Regional grouping same as that used by the Agricultural Adjustment Administration.

Gross farm income and farm population as estimated by the Bureau of Agricultural Economics, average 1936-38. Income available for living is gross farm income less selected cash expenditures chargeable to farm production.

The Corn Belt includes Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, and Nebraska.

The Cotton Belt includes South Carolina, Georgia, Alabama, Mississippi, Arkansas, Louisiana, Texas, and Oklahoma.

TABLE 2.—Average per capita consumption of food, 1920-33 and 1934-37, and estimated consumption required to supply an adequate diet at moderate cost

Commodity or group	Average per capita consumption		
	1920-33	1934-37	Adequate diet
	Pounds per capita per year		
Cereal products.....	222	196	160
All potatoes.....	166	157	165
Sugar and sirup.....	110	110	60
Dairy products:			
Milk and cream.....	399	405	636
Manufactured.....	31	35	45
Fruits:			
Fresh.....	185	189	216
Dried.....	6	6	25
Vegetables.....	146	169	184
Lean meats and fish.....	133	126	100
Eggs.....	31	30	23
Beans, peas, and nuts.....	14	16	20
Fats, excluding butter.....	46	45	17

Based on estimated consumption of foodstuffs in terms of retail weight as reported in Consumption of Agricultural Products, The Agricultural Situation, January 1939, and quantities required for an "adequate diet at moderate cost" as reported in Diets at Four Levels of Nutritive Content and Cost, Circular 296, U. S. Department of Agriculture, November 1933.

Milk and cream includes whole milk, sweet cream, cheese, and ice cream in terms of whole milk. Manufactured dairy products include butter, cottage cheese, and condensed and evaporated milk. Fresh fruits include fresh and canned fruit in terms of fresh fruit. Vegetables include fresh and canned vegetables in terms of fresh.

Altogether, about 10,000,000 agricultural workers would be needed. Such data as are available indicate that there are between 11,500,000 and 13,500,000 workers who normally consider themselves gainfully employed, or who can be employed, in agriculture, including about 1,000,000 women, most of whom are in the cotton-producing region.

This indicates that even with our present technical equipment we could easily maintain agricultural output at what seems to be a reasonably desirable level by giving full

employment to 80 percent of the farm people now on the land. And it seems reasonable to assume that with increasing improvement in technical methods and equipment, and with some reorganization of our farming system, we could eliminate most of the 1,000,000 women from farm employment and take care of the necessary seasonal overrun in labor with this same 80 percent of the current farm population. On this basis, we conclude that our land can support about 5,443,000 farms and about 25,419,000 farm

people, as compared with the 5,182,000 farms and 24,202,000 farm people estimated at the outset.

Regarding our second assumption, it may be objected that the average individual or family income in the Cotton Belt would be insufficient to provide even minimum living standards for the great bulk of the farm population, and that the calculation should begin with a consideration of minimum, reasonable standards of living and the number of families the available farm income could have supported at such a level.

It is estimated that minimum physical requirements of food, clothing, shelter, and medical care could be

supplied in the South for \$550 per family, in the North for \$630, and in the West for \$660.

If allowance is made for somewhat better clothing and shelter and an additional \$60 is allowed for education, recreation, churches, and charities and for contingencies not otherwise covered, it is estimated that minimum physical and cultural requirements could be met in the South by an expenditure of \$705 per family; in the North, \$820; and in the West, \$845 per family.

Since \$550 is only slightly under the average family income reported in the chief cotton-producing States and actually equals or exceeds the

TABLE 3.—Estimated annual value, at 1936 prices, of minimum physical and cultural requirements for a farm family of 2 adults and 3 children in the 3 major regions of the country¹

Item	Value of minimum physical requirements			Value of minimum physical and cultural requirements.		
	North	South	West	North	South	West
Food.....	\$385	\$375	\$405	\$385	\$375	\$405
Clothing.....	75	45	80	125	80	125
Shelter.....	150	110	155	220	160	225
Medical care.....	20	20	20	30	30	30
Education.....				20	20	20
Recreation.....				10	10	10
Church and charity.....				10	10	10
Reserve for contingency.....				20	20	20
Total.....	630	550	660	820	705	845

¹ These estimates were made by M. Attie Souder, associate home economist, and arranged for this presentation by John A. Baker, associate agricultural economist, both of the Farm Security Administration staff in Washington.

In calculating the minimum diets for the maintenance of health, liberal use was made of foods that could be produced on the farm so as to displace as far as possible the necessity for purchasing food. Farm prices were used for foods produced on the farm and retail prices for foods that would have to be purchased. The estimated value of home-produced food was \$270 in the North, \$300 in the South, and \$280 in the West. Household operating expenses and the maintenance of household furnishings and dwellings were included in the estimated annual cost of shelter.

Source: From James G. Maddox, Suggestions for a National Program of Rural Rehabilitation and Relief, *Journal of Farm Economics*, vol. XXI, No. 4, November 1938.

income reported in South Carolina, Georgia, Alabama, Arkansas, and Mississippi, it would seem that one could apply the estimated expenditures for minimum physical requirements to the income available for each of the regions in order to estimate the maximum number of farm people that might be supported on the land.

Carrying out this calculation, we conclude that approximately 9,772,000 farms or 45,635,000 farm people could be supported at this minimum level, as compared with the previously estimated 9,643,000 farm families and 45,032,000 farm people.

Or, if we use the estimated expenditures necessary to maintain minimum physical and cultural standards for the farm people, or the actual amounts available for family living, whichever is higher, the conclusion is that approximately 6,076,000 farms and 28,375,000 farm people could be supported on the land, as compared with the 5,182,000 farms and 24,202,000 farm people previously estimated, and the actual average farm population of 31,774,000 for 1936-38.

We conclude, then, that our farm land (assuming a market that will provide an income over and above the cash costs of production equal to that which prevailed in 1936-38) might support as few as 5,500,000 farms and 25,000,000 farm people or as many as 9,500,000 farms and 45,000,000 people, depending upon the initial assumption and the standards of living that farm people might be willing to accept. Which answer is correct?

There is no "correct" answer. We may move, and it may be desirable

to move, in either direction; or it may be that our farm population will eventually stabilize at about the current level.

For those who want to argue that there are now too many farms and too many people trying to make a living out of farming, the chief questions ahead are:

Can nonagricultural employment be stepped up so as to help not only unemployed persons in cities but also the additional 20 percent of the farm population they would like to see moved from rural to urban centers, and those young people who will be added to those already seeking employment between now and such time as the national population may reach a stable level?

What devices are to be used to care for the excess farm population until the industrial and commercial problems just outlined are solved, since even the more optimistic planners doubt that an immediate solution can be achieved?

On the other hand, for those who believe that farm population should remain at its current level, and especially, of course, for those who believe that the present population should be increased, the most immediate question seems to be:

What steps or devices can be used to develop new ways of agricultural life that will involve smaller cash expenditures and a less urbanized existence than many farm people now seem to believe desirable, that will at the same time give to the people following such ways of life an amount of satisfaction and a degree of contentment equal to that enjoyed by other classes of the population?

How Many ACRES DO WE REQUIRE?

By H. E. SELBY. Our farm problems would be much simpler if we could say that we need so many farmers on so many farms of so many acres. We cannot; a maze of factors and uncertainties complicate the subject: Crop failures, exports, mechanization, changes in diets, technological use of farm goods. These are examined here in the light of debates on the value of land reclamation.



THE FEDERAL GOVERNMENT is engaged in a program of land reclamation for irrigating some 3 million acres of new land and providing supplemental irrigation for 3 million or 4 million additional acres in the next 2 decades. Many persons and numerous organizations strongly support this program. Many others look upon continued land reclamation as unnecessary and unwise. In this argument, the pertinent points include the land suitable for cultivation, crop acreage per capita, future land needs, and Government subsidies.

The Soil Conservation Service has estimated at 447 million acres the total land in the United States that is suitable for continued cultivation under the best soil conserving practices, including reclamation of all suitable land by irrigation, clearing, and drainage.

This would be an increase of only 8 percent over the total American acreage of cropland reported in the 1930 census, 413 million acres. A

rather conservative population estimate for 1960 is 141 million people, an increase of 15 percent over 1930 and nearly twice as great as the maximum possible percentage increase in total acreage of land suitable for continued cultivation.

The question can be raised as to whether the 447 million acres will be available in 1960. Some of it will be used for farmsteads, rural residences, industrial uses, highways, recreation, suburban developments, et cetera. Even though such uses might aggregate several million acres, however, the amount would be well within the probable error of estimate in the 447-million-acre figure. More significant is the possibility that a considerable amount of the acreage will become unsuitable for cultivation through soil erosion. On the other hand, the 447 million acres is land considered good enough for continued cultivation. Probably there is much more that can be tilled intermittently in rotation with grass.

The Land Planning Committee of the National Resources Board esti-

mated the acreage of harvested crops that will be needed in the United States in 1960 to be 374 to 386 million acres. But a fact commonly overlooked in calculating needs is that the required acreage of cropland is for crops that are harvested and must include an acreage of normal crop failure and of cropland normally idle or fallow in any given year.

In 1924 and 1929, the acreage of crop failure and idle and fallow land averaged 14.3 percent of the harvested crop acreage. The addition of this percentage (apparently the best available figure) gives an estimate of 427 to 442 million acres as the total crop acreage needed in 1960.

These figures approximate the Soil Conservation Service estimate of the total acreage suitable for continued cultivation—447 million acres. To have that acreage available by 1960 would require reclamation in the next 2 decades of 6 million acres by irrigation, 8 million by drainage, and 42 million by clearing, using S.C.S. estimates.

This exceeds the bounds of probability and even possibility, to say nothing of the present reclamation program.

The S.C.S. estimates contemplate the retirement of about 76 million acres not suitable for continued cultivation even under the best soil conserving practices. It is improbable, of course, that the use of all of this land for crops will be discontinued by 1960, but the question is raised of how much longer it can be tilled without becoming useless.

Total cropland was not determined by the census before 1925—only crops harvested. By increasing the acreage of crops harvested by the ratio in 1925 and 1930 of total crop

acreage to crops harvested (1.143:1) and dividing by the total population, the following estimates of total crop acreage per capita are obtained, in comparison with the 3.4 acres per capita in 1930:

1880	3.8 Acres
1890	4.0
1900	4.3
1910	3.9
1920	3.8

The decrease from 4.3 acres in 1900 to 3.4 in 1930 is accounted for largely by the decrease in farm exports and by the substitution of mechanical power for horses.

The estimated 447 million acres suitable for continued cultivation represent 3.2 acres per capita of estimated population in 1960, compared with the 3.4 acres in 1930. In other words, full and sound development of all suitable land will provide less cropland per capita 2 decades hence than we have now.

Is it reasonable to expect that our cropland needs will be less in the future than they are today? The answer involves a maze of other questions and related factors, some of which are listed.

1. *Future agricultural exports and imports.*—Our agricultural exports have decreased about one-half in the last 15 or 20 years and now amount to less than 10 percent of the total market for agricultural commodities. Our agricultural imports now exceed our agricultural exports; in 1936 imports of competitive products even exceeded our total agricultural exports. The estimate of land requirements by the Land Planning Committee of the National Resources Board includes a smaller proportionate increase in exports than in domestic consumption; this

tends to reduce the acreage needed per capita.

2. *Substitution of mechanical power for horses.*—The number of horses and mules on farms in the United States declined from 25 million in 1920 to about 16½ million in 1935. An estimated 30 to 45 million acres required for growing horse feed thus were released. The National Resources Board report assumes that the number of horses and mules will increase about in proportion to total acreage after 1940, thus making no significant further change in acreage needed per capita.

3. *Changes in diet.*—Nutrition experts say that considerable increases in the consumption of dairy products, eggs, tomatoes, citrus fruits, and leafy vegetables are needed for an average national diet that can be rated good nutritionally. A greater use of dairy products and eggs, in place of cereal products, would require more land per capita. An analysis of crop acreage requirements to supply an adequate diet for farm population alone in eight Southern States indicated that 5.9 percent more cropland would be needed.

The determining factor will be purchasing power, which (as indicated by average per capita income) increased more than 30 percent from 1909 to 1929, dropped sharply during the depression, and is now up nearly to its high point.

Per capita consumption of animal products, especially dairy commodities, showed a net increase during the same period, although with wide fluctuations. Will these trends continue? The National Resources

Board report assumed that increased consumption of livestock products would be just about offset by increased efficiency in the production of livestock products from feed.

4. *Crop yields.*—Average yields of important crops have not changed significantly for several decades, except for a decline in the average cotton crop as a result of boll weevil infestation, and a recent increase in corn crops through the use of hybrid seed.

Apparently soil erosion and depletion and an extension of cultivation to inferior lands have been just about balanced by improved crop varieties and cultural practices and by shifts in production from depleted land to new land.

With the end of the available new land in sight, the question is whether the present rate of soil erosion and depletion can be lowered sufficiently and soon enough to prevent cuts in average yields. Yields could be increased, of course, by better farming methods and the use of fertilizers, but it is questionable whether any significant increase in such practices will occur under present cost and price relationships.

5. *Less pasture acreage.*—Virtually all suitable land is used either for crops or for pasture or grazing. As the total acreage used for crops is increased, the available acreage for pasture and grazing will be lowered. The decreased production from such land will have to be replaced by production from cropland, and will tend to increase the crop acreage needed per capita.

6. *Technological use of farm products.*—The industrial use of certain farm products for the manufacture of a variety of products has grown.

Many of the commodities are by-products—for example, skim milk used to produce casein—but there is also an increasing use of primary products (such as soybeans for manufacturing plastics), and new commercial uses for cotton.

The acreage required, to date, for production of agricultural products for industrial use is doubtless insignificant in relation to the total crop acreage, but it probably will grow in importance and conceivably may augment to some extent the needed crop acreage per capita in the next 2 decades.

The Place of Reclamation

Alternatives to increasing our cropland acreage by reclamation are more intensive production on the present acreage of suitable land, and increased imports of agricultural products.

The debatable question of whether the permanent solution for unemployment is more people on the land on subsistence farm units or absorbing them by expansion of industry seems to be irrelevant to the need for land reclamation. Probably a valid argument for land reclamation is to provide new land to which farmers on submarginal land can move in order to facilitate retirement of such land from crop production.

A frequent criticism of further irrigation development arises from its apparent inconsistency with a program for reduction of surplus

crop production. The reclamationists point out that irrigated lands produce comparatively little of the major surplus crops—wheat, corn, cotton, and tobacco. Probably the chief increase in production from increased irrigation will be in dairy products, for which the trend in demand should be upward. There is serious danger, however, of overproduction of certain specialty crops, especially fruits and vegetables, on irrigated land.

Finally, an aspect of land reclamation that bothers many persons is the government subsidy that is involved and appears to be necessary. Various arguments can be advanced in support of at least a certain amount of public subsidy. Subsidy in land settlement and development has been more or less traditional in this country—free homesteads, land grants to railroads, grants for swamp land reclamation, and the like. If these lands, because of better quality and productiveness, effect more efficient and cheaper production, the general public is benefited by lower cost of farm products. Substitution of sound irrigation farming for the farming in many present submarginal land areas should reduce the hazard of crop failure and necessity for public expenditures for drought relief, emergency seed and feed loans, and livestock purchase programs. And at least to the extent that land reclamation substitutes work relief for a dole, public expenditure for it is not an additional cost.

Sheep Migrate, TOO, TO FOLLOW THE GRASS

By H. R. HOCHMUTH and EARL R. FRANKLIN. In spring and fall, 6,500,000 sheep move to and from range lands. In their long treks they lose strength, cause higher operating costs, undergo hazards of climate and mountain trails, and subject a large area to one of the severest known land uses. Improvements are suggested in this article, part of a larger study concerning use and relationship of seasonal sheep ranges in the Intermountain West.



WINTER comes early to the high intermountain region between the Rockies and the Sierra Nevadas, south of the Salmon River of Idaho and north of the Colorado River. By mid-September, aspens gild the hills. The first snow is imminent. In the valleys, Indian summer is reaching its height. The stage is set for the migration of 6,500,000 sheep from Federal range lands.

A definite pattern of life is followed by the rancher who operates sheep on our great Western range lands. In the summer, the animals graze on the high mountains, most of which are in national forests. In the fall, to escape early snows, the sheep literally pour out of the mountains down canyons, roads, and highways, through fields, towns, and villages. The flocks, in excellent condition from $2\frac{1}{2}$ to 3 months of grazing on the green, fast-growing mountain forage, spread over the fall ranges, where most of the ranches and private lands are located.

The lambs, weighing about 80 pounds, are sold as feeders for

fattening or as grass fat for slaughter. The breeding flocks spend 6 to 10 weeks on farm fields, ranges, and pastures, being conditioned for the trek to the winter desert range. November sees the first movements of sheep to the distant desert ranges allotted under the control of the Grazing Service.

Through the winter, the sheep operator must cope with a rigorous climate. The forage shrubs and grasses are dormant, dry and tough. If snow, the only source of water for the animals, is late, entrance to the range also is late. If the snowfall is heavy, the forage is covered and feed must be hauled in.

Usually in March the sheep start back to the spring range, the range that was used in the fall. The ranch headquarters is generally located here, and the operator attempts to arrive on this range in time for lambing and shearing. While the flock is being sheared, snowstorms and freezing spells can cause high mortality among shorn ewes.

After 6 to 8 weeks on spring range, the forage becomes short,

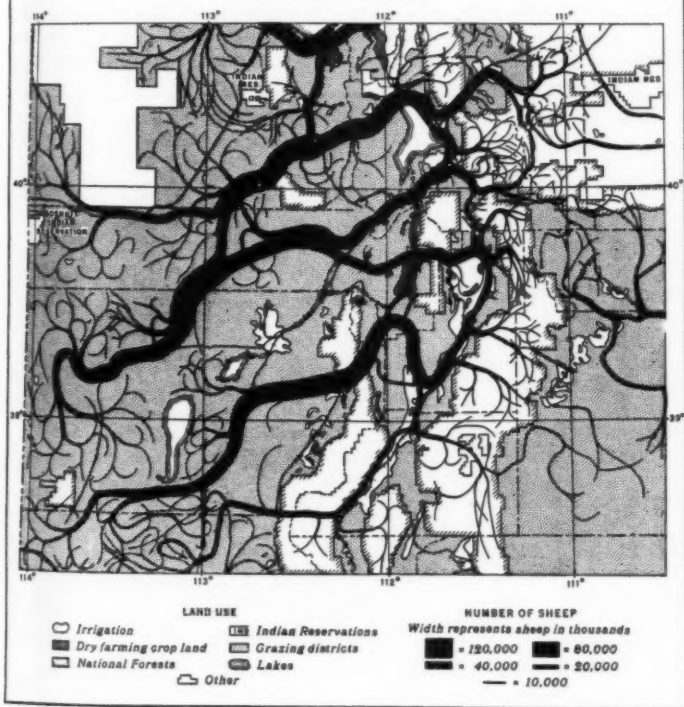
water becomes scarce, and the general movement to summer range begins. Again the mass moves up the canyons, roads, and highways, facing the dangers of topography, narrow trails, and vehicular traffic on the highways. Finally, the summer range is reached; the cycle has been completed.

Just as any crop must be harvested at certain seasons of the year, seasonal range forage must be harvested at a definite time. And just

as agricultural laborers often follow the harvests from place to place, sheep migrate to harvest the forage.

Climatic and topographical conditions divide the intermountain range area into three major classes—winter range, summer range, and spring-fall range. The intermountain region includes all of Nevada and Utah, more than half of Idaho, a major part of Colorado, Wyoming, and Oregon, and small parts of Arizona and California.

MAJOR SEASONAL MOVEMENTS OF RANGE SHEEP, 1938-39 WEST CENTRAL UTAH



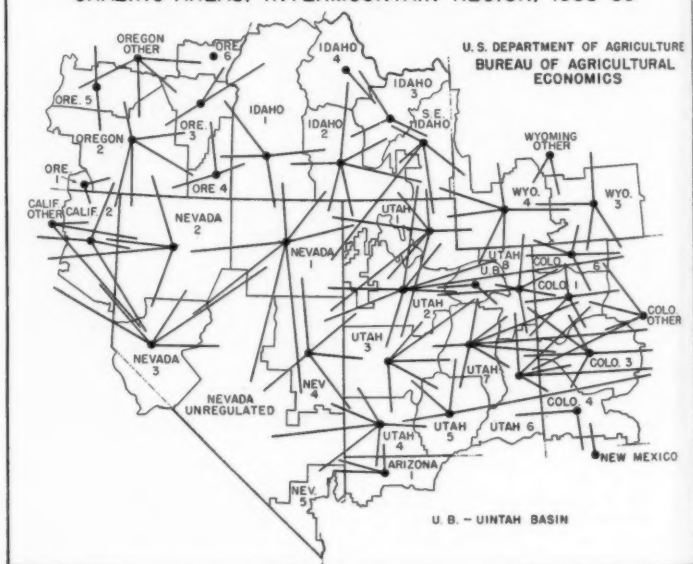
The summer range cannot be used in the winter because of snow, and the winter range cannot be used in the summer because of lack of water. Animals cannot be moved to summer range until the forage is ready. The plants must be given time to develop leaves and store food in the roots, thereby insuring proper growth of forage for the following year.

Thus, the range management technician has developed the concept of "range readiness," or that time when the forage has matured sufficiently to prevent range deterioration and keep the animals in good flesh. The sheepman is at the mercy of climate in deciding when and how much he should use his range.

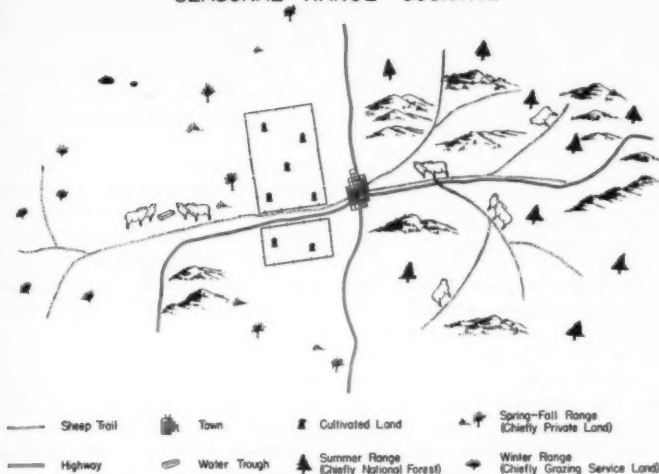
In many ways the spring-fall range, the stopping place between the summer and winter ranges, is the buffer or critical portion of the year's operation. Climate and forage vary greatly from year to year, but the sheep must be kept on it in spring and fall until the other ranges are ready. Therefore, the spring-fall range has become depleted to comply with the physical limitations of the summer and winter ranges.

If proportionate amounts of the various seasonal ranges are not conveniently available, the sheepman may obtain a balance between seasonal ranges by reducing livestock numbers to the capacity of the least productive seasonal range, purchasing or leasing additional sources of

SCHEMATIC DIAGRAM OF SHEEP MIGRATION BETWEEN GRAZING AREAS, INTERMOUNTAIN REGION, 1938-39



HYPOTHETICAL PICTURE OF THE SEASONAL RANGE COUNTRY.



forage nearby, moving considerable distances to obtain necessary seasonal ranges, grazing some ranges at a time that is undesirable from the viewpoint of maximum forage production, or overgrazing a range until other seasonal ranges can be satisfactorily grazed.

Some of these adjustments are unsound for maximum, sustained, forage production, but from the viewpoint of attempting to obtain a year-long balance, they assume critical importance in some areas for some sheep operators.

Interdependence of Range Areas

Grazing districts, set up by the Grazing Service, were used as a basis for delineating 37 grazing areas. Most of them include one grazing district and the enclosed or

immediately adjacent national forests, patented, and other lands. Some of them contain as much as 13 million acres, the average of all grazing areas studied being about 6 million acres. The average area may be compared to Massachusetts, with approximately 5 million acres, and Vermont or New Hampshire, with about 5¼ million acres each.

Sheep located in an average area depend upon 4.5 additional grazing areas for the yearly forage requirement. Or, conversely, the average grazing area furnishes forage to sheep coming from 4.5 other places. Twenty-six percent, or 1,324 out of 5,031 operators, depend upon 2 or more grazing areas for sheep forage. (In general, these are the larger operators. An operator with few sheep cannot afford to drive them beyond his grazing area unless his base happens to be near the border or unless

he can combine his band with that of a neighbor.) Of the 5,031 operators permitted on Federal range lands, 3,710 used 1 area only; 1,161 used 2 areas; 146 used 3 areas; and 14 used 4 areas. All statistical data have been calculated from the 1938-39 license and permit information of grazing districts, national forests, and other Federal reservations.

Land Pattern and Control of Seasonal Ranges

The methods whereby land was acquired, distributed, controlled, or reserved in the western United States have had an important bearing on the present pattern of use of range lands. The various land laws did not distribute the land in large enough units for grazing purposes. The railroads were granted large checkerboard strips of land through range areas. Individuals acquired small parcels around water holes, making possible the control of large areas. This indiscriminate disposal has tended to hinder the proper use of range lands.

National forests, established before 1900 in some instances, have been under the direction of the Forest Service of the Department of Agriculture for more than 30 years. These areas contain large parcels of range land, predominantly summer range, although some spring-fall and winter range is included. Since 1934, most of the public range, remaining unserved and unappropriated, has been brought under positive management by the newly organized Grazing Service of the Department of Interior.

Other public ranges of smaller extent are managed by the Bureau of Indian Affairs, the National Park

Service, Soil Conservation Service, and other agencies. Most of the grazing districts are winter and spring-fall range.

The individual sheepman may operate entirely on owned or leased land or on a combination of private and public lands. For some operators, the combinations of seasonal ranges and kind of land control may be simple in character and the various ranges nearly adjacent. Other operators may operate on ranges controlled by many agencies, and these ranges may be many miles apart.

On the basis of the control of the land upon which they operate, 33 percent of the operators are using grazing districts, national forests, and private land; 39 percent are using grazing districts and private land; and 26 percent are using national forests and private land. The percentage of operators using grazing districts and national forests varies widely between areas, depending upon the amount and quality of range offered by these two types of land ownership.

The ratio between the numbers of operators permitted on national forest and grazing districts is not indicative of the sheep-months forage obtained from these types of Federal land ownership, because the area, size of operation, and length of grazing season are all generally greater on the grazing districts.

Although the acreage of public lands in the grazing areas studied far exceeds the acreage of patented lands, only 51 percent of the forage of sheep using public lands is obtained on public range. The low grazing capacity of the publicly owned winter range and the rela-

tively high forage-producing capacity of the private cultivated forage land largely explains this low percentage.

Sheep operators are classified in the following by types of land ownership upon which they operated in 1938-39:

	Number	Percent
Grazing district, national forest and private lands.	1,667	33
Grazing district and private lands.....	1,946	39
National forest and private lands.....	1,332	26
Other land combinations.	86	2

The list includes only the operators who were licensed or permitted on Federal lands. The bottom line refers to Indian reservations, national monuments, unregulated public domain, and other land combinations with or without grazing district and national forest use.

The following table shows the use by sheep of range lands of specified ownership or control in the same years.

Type of range	Portion of total sheep months, percent
Grazing districts.....	37
National forests.....	13
Patented land (owned by individuals, corporations, counties, States, and others).....	49
Other federally owned land.....	1

Sheep Migration and Seasonal Ranges

Because seasonal ranges exist, the sheep must either be shipped or trailed to them. No seasonal range can be fully stocked year-long without deterioration of grazing capacity. If complementary seasonal ranges are adjacent, the migration is only

local in character, but much of the winter range may lie great distances from summer range, and the movement of sheep may entail crossing one or more counties, grazing districts, or national forests.

The volume and length of some of these seasonal sheep migrations are surprisingly great to persons not familiar with the situation. Twice each year more than 100,000 ewes pass over several trails in Utah where topography forces concentration. Over parts of these trails young lambs add to the movement.

Throughout the intermountain region there are numerous trails which 50,000 or more breeding animals traverse annually each way. Topographic conditions, such as canyons, mountains, and lakes, town and farm lands, markedly influence the routes followed. This is illustrated for a small area in western Utah in the accompanying chart.

In some places, the sheep are forced into narrow trails, because the mountain sides are steep and the canyons narrow, or because only the roadway is a public thoroughfare. In other places, the sheep can spread out over wide areas, and can graze as they travel.

Most of the small bands do not travel more than 50 miles between their most distant ranges; but, as the number of sheep per operation increases, the travel distance becomes greater. When owners of small bands must drive their sheep far, they combine their bands into units of at least 1,500 for economic trailing. Of 804 operators who have more than 2,250 sheep, 369 or 46 percent travel more than 100 miles twice each year. When the sheep reach their grazing allotments, addi-

tional movement takes place to obtain the daily ration of forage.

Problems Resulting From Sheep Migration

The long seasonal migrations of large numbers of sheep are responsible for serious problems to the sheepman, to the range land, to small ranchers en route, to the public land administrator, and to the general public.

Long migrations sap the strength of sheep, with resultant high mortality and reduced lamb crops. Operating costs are increased because of travel to the range from the ranch headquarters, and return. The operator cannot exercise close supervision over his entire business without large costs in time and money. The life of the sheepman and his herders is made more difficult by the distance they must travel. The hazards, trou-

ble, and costs must be balanced against the value of the forage obtained.

When the sharp hooves of 100,000 ewes and nearly as many lambs trample the vegetation and soils of a small area twice each year, the effect can readily be imagined. Plants are grazed very closely and then trampled out; the bare soil is loosened and soon erodes rapidly. Gullies have developed along some former sheep trails until they are no longer passable to stock. Sheep trailing represents one of the severest land uses known, and soils in the arid region, with their sparse vegetation, are ill-suited to such heavy use.

Migrating sheep consume all the available forage along their route. The small cattleman and farmer whose lands are adjacent to the trails find their range gone, particularly their spring-fall range. Their own livestock operations are seriously

Operators classified by numbers of sheep and by one-way trailing distance, intermountain region, 1938-39¹

Number of sheep per operator	One-way trailing distance in miles					Total operators
	1-50	51-100	101-150	150-200	Over 200	
1-275 ²	976	74	28	5	6	1,089
276-750 ²	492	71	43	29	7	642
751-1,250	390	117	42	24	6	579
1,251-1,750	159	78	36	18	3	294
1,751-2,250	129	77	41	27	6	280
2,251-2,750	65	55	36	25	15	196
2,751-4,750	51	70	80	39	35	275
4,751 or more	102	92	69	37	33	333
Total	2,364	634	375	204	111	3,688

¹ Includes only those operators obtaining grazing district or both grazing district and national forest use. National forest operators who do not obtain grazing district use are not included.

² Small operators trailing over 75 miles generally operate their sheep in cooperative or community flocks rather than as individual units.

impaired. The sheep furnish a market, but an uncertain one, for hay produced near the trail. In severe winters, all available hay is in demand, but in mild winters the hay stands unused in the stacks.

The public land administrator has many serious problems as a result of sheep migration. In the mountain areas, the natural trailways are in the canyons, which often have considerable scenic and recreational value if not damaged by sheep movements. The erosion of trails becomes a serious matter to the land administrator. Sound range management involves proper distribution of animals over the range, and proper utilization of the available forage. But if trails enter or cross a range unit, forage is depleted by concentrated grazing along them; while in other sections of the unit, forage may be only partly used.

Possibilities for Improvement

Several possibilities for improvement are evident. Often the length and volume of sheep migrations could be reduced by exchange of private holdings and better allocation of permits and licenses to use public ranges. For instance, two bands may meet and pass each other going to their respective seasonal ranges. An exchange would eliminate needless trailing for both.

Most of the sheep trailing of the intermountain region is inevitable as long as the ranges are used. Trails can generally be improved. Careful relocation can reduce the hazards to soil and vegetation. Water can be developed, to lessen the death losses en route. It may be necessary to arrange

for feeding hay or grain at places along trails.

Trucking instead of trailing sheep is another possibility. Lambs ready for market are frequently trucked, but, as yet, few operators are convinced that trucking will pay in the case of breeding animals. One difficulty is that many roads are poor, even impassable to trucks during stormy weather. Some sheep are shipped by rail, but again, most operators are not convinced that this pays. Few of the railroads parallel present trails, or even lead from summer to winter range.

Feeding of hay on farms may prove more economic than trailing, at least to some winter ranges where the forage obtained is hardly worth the cost of going to it. This would not lessen trailing to and from summer ranges. At present, many parts of the intermountain region produce insufficient hay to feed range sheep in winter, even if operators were convinced that it paid to do so.

This first step in dealing with this problem is, obviously, to secure accurate information regarding it. The most common solution suggested to date has been to prohibit trailing in certain local areas, with the result that trailing is usually increased elsewhere.

County planning or other local groups, public land administrators, and others must have accurate and comprehensive information of the entire problem before they can proceed intelligently. No local group, nor any land administrator responsible for only one type of seasonal range, can deal adequately with this problem on the basis of their own information.

The Dilemma OF THE LAND HUNGRY

By H. M. COVERLEY. *In a country as big as ours, it seems impossible to have a "shortage of land." But the term begins to have more than an academic meaning when we find that 24,700 farm families were unable to rent farms in the Corn Belt during the past year—evidence, the author says, of "a chronic state of poor economic health."*



IN AMERICAN agriculture today, an irresistible force is meeting an immovable body. More people are trying to make a living from the land than ever before, yet fewer people are needed on farms than ever before. For the first time in our history, there is a serious shortage of land in the United States.

It is a relatively recent development, this shortage, but it has been on its way for some time. The reckless land policies of the nineteenth century played their part. So did soil-depleting cultivation by pioneers, who could always move on to more land further West. And so, more recently, did drought, technological developments, and loss of foreign markets.

The rising tide of tractors and other farm machines has also taken its toll in security. The man with the hoe—or at best a mule and a one-row cultivator—cannot hope to compete with the motorized harvesting combines, mechanical potato-diggers, and a whole array of other new equipment.

In 1930 there were about 900,000 tractors on farms. By 1938 this number had jumped to 1,527,989. There are no figures to show how many owners and tenants have been pushed off the land by this rapid mechanization, and by the resulting consolidation of small farms into large, commercialized farming corporations. The swelling tide of migrants is a clear indication, however, of what has happened, and individual cases come to light from time to time to support that indication.

For example, when one plantation began to use tractors and four-row cultivators, the management reduced the number of its tenant families from 40 to 24. Another plantation in the Mississippi Delta bought 22 tractors and 13 four-row cultivators, and let 130 of its 160 cropper families go.

This tendency toward mechanized "multiple-farm" operation is not a product of the last few years, or even of the depression. A survey by the Des Moines Register-Tribune this year disclosed that "most persons reporting widespread consolidation of

farms in their counties assign its beginning to the early twenties." The same survey found that since 1929, in Iowa at least, the rate of change has been increasing steadily.

Bigger and "Better" Farms

That mechanization has been accompanied by increases in large-scale farming was made clear by the 1935 census of agriculture. These figures show that the number of farms of more than 1,000 acres increased from 80,620 in 1930 to 88,662 in 1935, an increase of almost 10 percent. At the same time the total number of farms increased by only 8.3 percent.

The comparable figures for increases in acreage bring out the same trend. The acreage of large-scale farms (more than 1,000 acres) was 276,212,832 in 1930 and had risen to 309,700,926 in 1935. This represented an increase of 33,488,094 acres, or more than 12 percent. During the same 5-year period, the total acreage of farm land increased by only 6.9 percent, the total increase being 67,744,095 acres.

If these same figures are considered from another angle, the trend toward large-scale farming becomes even clearer. For, although only 1.5 percent of the 5-year increase in the number of farms represented additions to the farms over 1,000 acres, these large farms accounted for nearly 50 percent of the total increase in farm acreage during the period. In other words, not only were large-scale farms growing more numerous, but at the same time they were growing bigger.

A partial result of this growth in huge farming establishments has

been a significant diminution in the rate of growth of middle-sized, family farms of the type we ordinarily think about when we talk of "American farming." Moreover, there has been a rapid increase in the number of very small farms. Farms under 50 acres, which in 1860 accounted for only 29.4 percent of the total number of farms, now represent 39.5 percent of the total. Over the same period the number of farms under 20 acres nearly doubled. The trend therefore seems to be away from the middle-sized farm, toward farms either too big or too small for an individual family.

Farm income, consequently, is distributed in a way which tends to squeeze out the small farmer. As early as 1930, about 90 percent of the marketed farm products came from the land of half of the farmers. The rest of the farmers were getting only one-tenth of the total cash income of agriculture. At the present time, it is probable that nine-tenths of the farm market is supplied by even less than half the Nation's farms.

More and Poorer People

Land is one side of the dilemma; population is the other.

To say that farmers are being forced off the land is in a sense inaccurate. Farmers become landless, to be sure, but there is no outlet which actually takes them off the land. The vast majority of them must make a living on the land or not make a living at all. They become day laborers, and many of them take to the road as migrants, joining in the mad rush from harvest to harvest, eking out a pre-

carious existence on seasonal work and odd jobs.

The widespread urban unemployment which came with the depression meant that opportunity in the cities was closed, and cityward migration fell off sharply. In addition, millions of workers who ordinarily would have sought employment in the cities, were "backed up" on the farms during the depression.

By 1935, twice as many families were trying to make a living off southern farms as in 1860, with fewer acres actually in cultivation. In 1939 it was estimated that the Nation's visible domestic and foreign needs could be supplied by 1,500,000 fewer farm workers than in 1929. Yet in the same period total farm population actually increased by 1,830,000.

There, in a nutshell, is the dilemma of insecurity: How to reconcile increased population pressure on the land with the contraction of opportunity for making a living off the land? In this game of "Going to Jerusalem," the chairs of economic opportunity are removed one by one, but the players all remain in the game, fighting more and more desperately for the few which are left.

Shortage of Land: 1940

The trend in 1935 is clear from the census of agriculture taken in that year. Is the trend the same in 1940? Has the tendency toward diminished security perhaps become more pronounced? No general answer can be given until the 1940 census figures are tabulated. But a partial answer to this question was

Universal

Whatsoever road man takes in this world, he comes finally to agriculture, the most universal occupation of men, the most holy and natural, and the only one to which our first fathers were commanded by the mouth of God.

—OLIVER DE SERRES

given in May through a survey in the Corn Belt, including Ohio, Indiana, Illinois, Iowa, and Missouri.

F. S. A.'s regional director for those States asked his county supervisors how many farm families were unable to find farms to operate during the 1940 crop year. He discovered that out of approximately 58,000 F. S. A. borrowers in the region, 2,336, or 4 percent, had been unable to find farms. He found that another 6,246 eligible applicants for rehabilitation loans were in the same position. The county supervisors reported that they knew of still another 16,120 renters, not applicants for F. S. A. assistance, who could not find land to farm.

Nor do we need to use guesswork in assigning the reason for the inability of these farmers to find land. The reason most frequently cited by the supervisors themselves was "expansion of farm operations and increase in the size of farms due to improved equipment and mechanization."

Now the "Corn Belt" region is not in the Dust Bowl, nor are the five States which it includes generally spoken of as "drought States." Quite the contrary. Midwest farmers in the Corn Belt have traditionally been one of the most prosperous groups of American agriculture. Here destitution and insecurity have not, as in some other portions of rural America, been the normal way of life. So, when we find that 24,700 farm families were unable to get located at all during the past year in this region, when we see that farmers are being forced off the land even in the most prosperous farming area in the United States, the term "shortage of land" begins to have more than an academic meaning.

Toward a Solution

What to do? Nobody, of course, knows the whole answer. But much depends on this basic question: Is it economically feasible to establish family-type farms in competition with these large industrialized "out-door food factories"? To this question the Farm Security Administration, through its rehabilitation program, is drafting an affirmative reply.

F. S. A. has naturally been able to reach only a part of those who need help. However, in its 5-year attempt to stanch the flow of men from the soil, it has developed programs and techniques which may provide the basis for a really widespread attack on the problem of agricultural insecurity.

Nearly 30,000 families have been able to buy their own homes under the tenant purchase and homestead

development programs. Some 800,000 families have gotten a new start through rehabilitation loans. In general, these families have been able to compete successfully with the forces which drove them from their land.

How has this been done? Not, assuredly, through a return to the old patterns of cash-crop farming, soil depletion, and blind individualism which once made these same families the easy prey of erosion and drought, depression, and mechanization. It has been done through the adaptation of multiple-farm economics to the family-type farm; and through emphasis on farming as a way of life rather than as a way of making a living for somebody else. Cooperation, diversification, subsistence farming—these are F. S. A.'s chief contribution to the dilemma of insecurity.

Farming: A Way of Life

Heretofore large capital requirements and heavy overhead made it impossible for the small farmer to enjoy many of the operating advan-

Chosen

Those who labor in the earth are the chosen people of God, if ever He had a chosen people, whose breasts He has made His peculiar deposit for substantial and genuine virtue. —THOMAS JEFFERSON

tages of his larger competitor. This problem is being met through the cooperative action of borrowers and other small farmers, who form associations and receive F. S. A. loans for the joint purchase or rental of tractors and other heavy equipment, breeding stock, canning facilities, fertilizer, seed, and other necessities.

Diversification of crops has meant more than planting one or two additional cash crops so that the family will no longer be dependent on the price fluctuations of a single commodity. It has meant developing a market in the farm home for the fruits and vegetables, meat and milk produced on the farm.

The farm family's real income has thus been substantially increased. A survey of 360,000 F. S. A. borrowers at the end of 1939 showed that since receiving their loans they had increased the total value of their home-grown products by \$34,878,253.20, or an average increase of \$96.88 for each family.

In spite of this showing, the family-type farm must count its largest dividends in terms of better living standards rather than in the dollars-and-cents calculations of industrialized farms. More efficient production on the small farm cannot now mean

the acquisition of more acres for the entire family to work. It can and does mean freeing women for domestic pursuits, more education for the children, the devotion of more effort to improving the property as a farm and as a home, and more adequate attention to the health and recreational needs of the family. This is what is meant by farming as a "way of life." It has long been recognized as a desirable social end. The fact that it can also be regarded as an economic goal has been slower to achieve recognition.

The program of the Farm Security Administration gives great promise for the future. But excellent drop though it is, the bucket which it is trying to fill is still large—and largely empty.

This is an emergency for the whole nation. It is not a sudden attack of indigestion, but rather a chronic state of poor economic health, which can at any moment flare up into some acute and dangerous malady. It threatens the lives and living of that quarter of our population which is pressing against our constricted acreage. If the amount of land cannot be substantially increased, at least we can concentrate on making the same amount of land support more people.

Managing THE FARM BY LONG DISTANCE

By SHERMAN E. JOHNSON. *What Farmer John Doe should plant on his 120 acres in Missouri, how many cows he should milk, and what rotations he should follow are determined, as likely as not, in the towers of Manhattan, the banks of San Francisco, or offices in Washington. This, Dr. Johnson says, may not be an unfavorable development, but it means that certain problems must be faced.*



WE ARE accustomed to thinking of the farm operator as independent—a man who makes his own business decisions, who decides what equipment to buy, what crops to grow, and what livestock to keep. In fact, farming is considered the last stronghold for individual management units in our economy. Our 6½ million farmers are supposed to be operating as they please.

But, as a matter of fact, most farmers share their management decisions with others, and in some cases may have little if any voice in management. Especially on the commercial farms, separation of management responsibility from the farm operator has taken place along three principal lines: Through the landlord-tenant relationship; through the debtor-creditor relationship; and through the public programs and certain regulatory activities.

In some regions, the separation of management functions from the resident operator is not a new development, but on most farms in all re-

gions farmers are having less and less to say about their own operations.

It is also evident that the management problem differs greatly on the various types and sizes of farms in the several agricultural regions.

Compare, for instance, a Mississippi Delta cotton plantation, employing 100 or more cotton tenants, with a family-operated cotton farm in the hill areas. A highly commercialized corn-hog-beef cattle farm in the western Corn Belt presents a very different management problem from a small general farm in the Appalachian Highlands that produces a major portion of its products for direct consumption by the farm family.

The sizes and types of farms we now have are the result of many forces. Some are related to the land resources of the area, and to the institutional setting within which the farmers are operating; some to the adaptability of the farmers themselves. In general, the more commercialized the farm business has become, the less the operator has had to say about managing his farm.

Everyone recognizes that tenant farming involves a sharing of management duties with the landlord. The landlord's responsibility varies considerably; he makes nearly all decisions under cotton-sharecropper tenancy, but in specialized wheat areas his primary concern is to get his share of the crop.

The percentage of tenancy has been increasing; and with 41.3 percent of all farms entirely tenant-operated in 1935, the separation of the management function in this direction becomes important. Moreover, much land has shifted into nonresident ownership in many areas, and this changes the place and the conditions under which the landlord's decisions will be made.

When more than 15 percent of Iowa farms are owned by corporations (largely insurance companies), many managerial decisions are made in New York, not on the farmstead.

On the other hand, the retired farmer who has rented his farm will talk things over with his tenant on the farm, where both parties can see the problem first hand.

The division of managerial responsibility that is involved in the debtor-creditor relationship has not been so well recognized as the landlord-tenant relationship.

But creditors, local bankers especially, long have exercised considerable authority over operations on farms where they have placed their loans. The higher the loan in relation to the investment, and to the annual earnings, the more nearly the debtor-creditor relationship becomes a business partnership. Many credit agencies therefore have organized supervisory units to furnish guidance on the farms where they

have placed their loans. When we learn that 41.5 percent of the full owner-operated farms had real estate mortgages in 1935, we realize that creditors exercise management responsibility on many of our farms.

The facts that 10.5 percent of the farms are operated by owners who rent additional land, and that a large percentage of these are mortgaged, besides being partly tenant-operated, lead to the conclusion that management responsibility is divided either by the landlord-tenant relation or by the creditor-debtor relation on about 70 percent of our farms.

To some extent the public action programs limit the scope of the decisions made by the operator and the others who share this responsibility with him. The western rancher who uses public lands for his range has his activities closely circumscribed by such agencies as the Forest Service and the Grazing Service. Limitations imposed by public programs and by regulatory activities represent the injection of society's interest in the management of our agricultural resources.

They may, for instance, result in conservation of soil resources. Some of the regulatory activities, such as those involving milk production, are devised directly to protect the health and well-being of consumers.

The rehabilitation program of the Farm Security Administration deserves separate mention. It involves the application of social case work to rural people. Loans are used as one of the means of rehabilitation. Approval of a loan is given only if a satisfactory farm plan is worked out by the client and the F.S.A. super-

visor, who furnishes management assistance throughout the period of the loan. Thus the F.S.A. assumes an important share of the management, and, since most of the clients are renters, the management activities of the resident operators are limited in two directions.

All this is not necessarily an undesirable development. But, it does indicate a need for recognizing that this division of duties and decisions has taken place, and that, as a result, certain problems should be faced.

The most important arise from the fact that the different persons concerned with management do not have identical interests. A farming program that conserves the soil may actually result in a higher net income over a period, but the tenant farmer with a 1-year lease is interested only if the program results in a higher income for that year.

The owner-operator heavily in debt may find it expedient to mine the soil in order to meet his payments.

On the other hand, investment in more livestock might greatly increase income and facilitate debt payment, but the creditors refuse to extend more credit. Sanitary regulations for milk production may be too costly for the man with only two or three cows. When the final decisions on management questions are made far from the scene of action, there must be prompt attention by well-informed personnel, or the result may be detrimental to good farming. There is a need for men of practical experience and adequate training to exercise the management responsibility of persons other than the resident operator. If this trend toward supervised farming continues, the need will become even greater.



Books

RURAL REGIONS OF THE UNITED STATES. *A. R. Mangus*. Work Projects Administration. Washington, D. C. 230 pp. 1940.

YOUTH—MILLIONS TOO MANY? *Bruce L. Melvin*. Association Press. New York. 220 pp. 1940.

MOTHERS OF THE SOUTH. *Margaret Jarman Hagood*. University of North Carolina Press. Chapel Hill, N. C. 252 pp. 1939.

by CONRAD TAEUBER

WHEN THE F.E.R.A. first embarked upon its program of rural research, it found an immediate need for some device for selecting a rep-

resentative sample from among the 3,000 counties of the United States in such a way that accurate pictures of the total situation could be secured

at a minimum of cost—a major problem in sampling.

The county was necessarily the unit of sampling, but the techniques for selecting sample counties had not yet been adequately developed for this purpose. Mr. Mangus undertook to work out the solutions to this practical question, and found that it was necessary to develop a statistical description of the United States, showing the variation from county to county on a large number of factors. It soon developed that just as the farm management experts had been able to describe type of farming areas on the basis of the census reports of 1930, so there were areas within which there was a high degree of homogeneity in relation to social factors. These are basic areas which should be sampled in order to secure representativeness in the returns from any extensive study which might be undertaken. These smaller areas in turn grouped themselves into larger areas, characterized by a high degree of similarity, which may be called regions. Thus, an empirical base is provided for such common terms as Cotton Belt, Southern Appalachians, Lake States Cutover, and so on. Two hundred and eighteen subregions for the rural farm population were grouped into 32 general regions and when the characteristics of the rural nonfarm population are taken into account there are 264 subregions and 34 rural regions.

THESE REGIONS and subregions were originally designed to provide samples for studies of rural relief trends and unemployment problems, and their utility for this purpose has been adequately established. But beyond that they will undoubtedly

prove of value to students analyzing other social conditions, and they should be of value to administrators concerned with planning programs to fit specific areas and situations and with laying out the territory for decentralizing administrative functions.

Three different sizes of representative samples have been selected for both the rural farm and the total rural population, illustrating the techniques by which still other samples might be selected for other purposes.

Some objections have been raised to this definition of regions in that they are not cultural in the sense of being based on the distribution of strictly cultural traits, rather than the distribution of economic factors or material traits. In a sense that is correct, but it is primarily a criticism of the data which are available for such an analysis. The fact that such a cultural trait as the population fertility ratio, which was a major factor, correlates highly with the distribution of the material traits used suggests that when more strictly cultural factors can be introduced into a regional description of this type, the lines as drawn may not differ much from those which Mangus outlined.

A major test of the validity of the regional lines will be possible when the 1940 census data become available.

THE PRESENT regional lines are based chiefly on 1930 census materials, because so few county data were available for earlier periods. If it should develop that these regions can be described with a high degree of stability in time, a major contribution to social research will

have been made by providing a usable number of homogeneous areas for statistical manipulation or as a basis for sampling in a manner which permits some knowledge of the universe of which the sample is representative.

Even if it turns out that with each succeeding census some redrawing of the lines becomes necessary, this attempt still has a value far beyond the immediate purpose for which it was undertaken. It makes a major contribution to the elimination from research reports of such vague statements as "The area was selected on the basis of the best judgments available and is believed to be representative of the larger area shown in figure 1."

No set of regions will serve all purposes, but here is a set which will serve many of the needs in social research, and its widespread use should reveal the weaknesses which may be inherent in this approach and at the same time contribute toward placing studies of samples of many kinds into their proper framework, thus making the application of conclusions from them to the universe much more direct. That is a much-needed improvement in methodology.

NO ONE who is concerned with agricultural planning and with the conservation of human and natural resources can neglect to deal with the problems considered in Mr. Melvin's book. The author contends that youth, the greatest resource which we have, may easily become a liability unless intelligent steps are taken to integrate the maturing young people into the social system

which they will eventually dominate.

The book calls for thought that leads to action, while "we yet have time to think"—intelligent action that avoids panaceas but does not hesitate to try approaches which, though partial, nonetheless promise to aid in bringing solutions a step nearer.

During the past years, Melvin has carried through a number of studies of the problems of youth, and has prepared several research monographs dealing with this subject. The present volume is a summary which gives the nontechnical reader the gist of much of the information that has been gathered in recent years by the many agencies which have been making research studies.

In case histories, testimony of young people, and tersely stated summaries of research reports he examines the situation as it has developed from the convergence of five major trends: Destruction of forests and soils, growth of cities, concentration of wealth, the increasing dominance of the money economy, and the declining rate of population growth. The special problems of farm youth, village youth, city youth, and Negro youth are examined in detail. The situation having been described, critical attention is turned to some of the efforts that are being made to do something about the problem.

The incongruity of much of the present educational training in the light of job opportunities and the importance of uniting intellectual and work education are analyzed. Leisure time activities and the provisions made for constructive use of

leisure time, the activities promoted for youth, and the activities promoted by youth groups are described, with considerable attention to the youth groups which have recently attracted attention in the press.

A chapter on youth and democracy provides some warnings on what has happened elsewhere when the problems of youth were either not considered or the solutions offered were inadequate. Finally there is a plea for action, both along the paths already tried and along lines still to be charted.

The title of the book with its chapter headings, such as *Unneeded Farm Youth* and *Unwanted City Youth*, states the question that is posed throughout the book. The author's answer to the question, as well as the urgency of the problem, can best be summarized in his own answer to the question, "Millions too many?" He replies, "No; not if America is to remain the land of high hopes, of humanitarian ideals, of freedom, which have been her strength."

SOCIAL statisticians, like other scientific workers, are frequently in danger of denying existence to those phenomena which they cannot measure with the techniques available to them. As a result, there have been many sterile debates on the merits of various methods, for example, much of the debate about the relative merits of case study versus statistical study.

Mrs. Hagood brought to her problem the critical approach to the sample and to generalizations from it which grow out of her statistical training, but the materials which she needed called for techniques other

than those usually available to statisticians. She held long interviews with subjects who were likely to be suspicious of the outsider who showed an interest in their personal affairs.

Her approach was through a friendly conversational "just-a-visit" tone, but a schedule was used to record the information on all essential topics of the study. A large number of the mothers interviewed were visited twice and some of them as often as six times. The visits varied in length from half an hour to 4 hours, most of them lasting about an hour and a half. Throughout, the emphasis was on the normal, rather than any pathological situations. The presentation makes use of the mode and the range throughout and stresses the important fact of variation in even a fairly homogeneous group.

The result is an unusually penetrating portrait of that part of the agriculture of the South which centers about the white tenant farm woman—her activities and her attitudes in relation to field work, housekeeping, child-bearing, child "raising," wifehood, community participation, the transition from childhood to motherhood, and middle age and mother worries.

In her very readable account, Mrs. Hagood succeeds in portraying the daily round of life and the attitudes and the motives of the farm women which help to give meaning to their day-by-day activities.

Here one sees the woman in the triple role of mother, housekeeper, and field worker; frequently preferring field work to housework, often boasting of the ability to work like a man, but leaving the plan-

ning and managing of the farm entirely to the husband.

Large families are a matter of pride, but many mothers wish for no more children. All activities are directed toward the farm, children, and home, rather than toward inner goals demanded by inferiority feelings or other internal maladjustments. Economic necessity leaves no time for intellectual contemplation, educational training has supplied neither content nor tools for the solution of her problems, isolation has prevented the stimulation from contact with people and the diffusion of more efficient techniques,

the cultural heritage holds these mothers to their tasks and in their places with the sanction of God and the Southern tradition, and there is no escape from the system.

With the increasing recognition of the importance of attitudes, emotions, habits, and cultural patterns in the lives of all people and the necessity of understanding these if agricultural programs are to be put into action, this book fills one gap in our knowledge. Perhaps it will soon be possible to have some equally skillful person interview the men on farms similar to these and, thus, help to round out the picture which is begun here.

GOVERNMENT AND ECONOMIC LIFE, VOLUME I. *L. S. Lyon, M. W. Watkins, and V. Abramson.* The Brookings Institution. Washington, D. C. 519 pp. 1939.

GOVERNMENT AND ECONOMIC LIFE, VOLUME II. *L. S. Lyon, V. Abramson, and associates.* The Brookings Institution. Washington, D. C. 520-1301 pp. 1940.

by JAMES P. CAVIN

THE AUTHORS, of whom the three named in the citation are responsible for Volume I, while nine share responsibility for Volume II, aim to "analyze the relationship of government to economic life as a whole in terms of fundamental economic and social functions and fundamental governmental activities."

Such analysis, however, excludes consideration of the "soundness" of public policies; and although analysis of the consequences of alternative lines of action is deemed desirable, "the wide range of problems dealt with . . . makes such an analysis impracticable for all of the spheres discussed" and cannot "be undertaken for limited areas without giv-

ing the study a biased and unbalanced emphasis."

In the end, the authors narrow their task to the interpretation of "the development of each major phase of public policy in terms of the significant economic and social forces which have conditioned it," and to the presentation of "current trends and frontier issues."

These two volumes are essentially source books, and perhaps the best service a reviewer can perform is to indicate in some detail their organization and content.

The relations of the Government to economic life are viewed as taking two fundamental forms: Implementation and regulation of private

enterprise, and direct production of goods and services by governmental agencies.

Practically all of Volume I is devoted to "governmental implementation and regulation of private enterprise as it has been applied generally to a wide range of industrial and commercial life, without important distinctions between one type of industry and another."

Six chapters are devoted to implementation in the form of the "provision of instrumentalities" and one to implementation in the form of "provision of knowledge." Following are nine chapters dealing with regulation.

The chapters dealing with instrumentalities designed to implement private enterprise in general cover five topics: Organizational forms for business enterprise, bankruptcy and reorganization procedures, patent rights, a monetary mechanism, and a mechanism to adjust labor disputes. The chapter on provision of knowledge deals with the growth of standardization, research and the dissemination of knowledge.

The chapters dealing with regulation in general cover four broad topics: The maintenance of competition; the enforcement of ethical standards; the restriction and facilitation of concerted action among workers; and the regulation of terms and conditions of employment.

Under these headings are such items as the common-law roots of antimonopoly policy; the Sherman Antitrust Act; the trade association movement; the Federal Trade Commission; the problems of interlocking directorates; resale price maintenance and price discrimination; regulatory activities under such legisla-

tion as the Food and Drug Act and the Commodities Exchange Act; the law of conspiracy; the injunction; the National Labor Relations Act; strikes and boycotts; child labor; physical safety of workers; and minimum wages.

Volume II shifts from the implementation and regulation of private enterprise in general to that of particular segments of the economy and in certain periods of time. The scope of this treatment is for the most part sufficiently indicated by the chapter headings: Foreign Commerce (a review of tariff policy); Public Utilities ("the controls exercised by government, municipal, State and Federal, over the telephone, telegraph, electric power and light, and manufactured and natural gas industries"); Transportation; Agriculture; Bituminous Coal; Petroleum and Natural Gas; Foods and Drugs. The topics treated as belonging to special time periods are the National Recovery Administration and War. The National Recovery Administration period is regarded as one during which the whole of private industry was temporarily converted into specially treated segments. The chapter on War covers World War experience and certain recent events, principally plans for industrial mobilization and neutrality policy.

THE foregoing topics account for about three-quarters of Volume II, the bulk of the remainder being devoted to direct production of goods and services by governmental agencies. Separate chapters are allotted to the Government as a producer of final goods and services (education, highways, welfare services, public health, hydroelectric power,

housing); public relief; and social security.

Finally, there are certain chapters that verge into general economic analyses. These are the first two chapters in Volume I dealing with basic economic concepts and factors conditioning the development of relationships between government and economic life in the United States; a final chapter in the same volume summarizing new trends and developments; and a chapter of concluding observations in Volume II.

It is not feasible to review in detail the separate chapters, each of which is a substantial essay by a competent specialist. Their value will vary with the interests of the reader. Such chapters as those on the organizational forms of business enterprise, maintenance of competition, the banking system, transportation and agriculture cover more or less familiar ground, though all contain valuable recent material.

The chapters on public utilities, the plane of competition, bituminous coal, and concerted action among workers appear to the reviewer to be particularly valuable syntheses of complex, though generally familiar, fields. The chapter on the N.R.A. summarizes an earlier Brookings study. That on war is timely, but a more extended treatment would have been profitable. Many will welcome the chapters on the Government as a producer of final goods and services, public relief and social security, as providing integrated accounts of new and dispersed fields. Most of the chapters contain summary statements with varying emphasis on appraisal and the elaboration of issues.

Some of the findings in the chapter on agriculture may be of special interest. It is held that with the Agricultural Adjustment Act of 1933, the Government assumed two new positions with respect to agriculture: (1) It "accepted responsibility for restoring the material well-being of farmers as a whole to the level that they had occupied in their most favored previous peace-time period," and (2) passed "from the role of advisory guidance to one of over-all planning and implemented activity designed to determine both the direction and magnitude of agricultural enterprise." Agriculture has become "patently an area of special treatment by State and Federal Government, particularly the latter." This inclination to special treatment is motivated by (1) "agricultural fundamentalism," implying a belief that "agriculture is the base of the economic pyramid and upon it the strength and soundness of our entire economic system depend," and (2) "the technical and economic character of the industry itself," where "wide geographical dispersion, with persistent adherence to a very small unit of business organization and management" has prompted the belief that the Government should furnish large "overhead units of service, management, and economic organization" somewhat analogous to those which characterize large-scale units in industry, commerce and finance.

IF THIS new scheme for agriculture "means not merely the largest potentiality of efficiency or collective planning but also maximum power for collective bargaining or group pressure in agriculture, we shall have a scheme of organization which, in

the absence of a philosophy of moderation, might conceivably be used to the end of exploiting other industries or departments of the national economy." The economic and social soundness of this new organization of agriculture "must depend on the conscious philosophy of those who are directing and participating in it." An important aspect of this larger issue is the problem of subsidy payments. If these are to be continued, "or if they are to be wisely reduced and readjusted as to direction and timing, there is demand for greater understanding on the part of both rural and nonrural people as to the incidence which such manipulations of the national income have upon the functioning of the economic system." Appraisal of these conclusions may well be left to the readers of this journal, to whom a full reading of this chapter is recommended.

PERSONS interested in the general problem of the role of government in economic life will turn quickly to the final chapter of each volume. In Volume I, this chapter views the course of public policy as it relates to private enterprise generally from the standpoint of changes in objectives, methods, and criteria.

Under objectives are found: (1) a shift from reliance upon freedom of economic opportunity and "healthy rivalry" as guarantors of economic security to devices designed "to regulate the general pace of general business activity and to assure a minimum income to those who cannot provide it for themselves," and (2) "the extension of the principle of preserving the competitive position of particular industries or groups."

Under changes in methods are found: (1) "the development of governmental prescriptions concerning the management policies of private business," (2) "the considerable expansion of direct production by government," and (3) "governmental sponsorship of the organization of special interest groups, and the encouragement of partisan group participation in governmental functions."

Under changes in criteria are found: (1) "a diminished confidence in private enterprise as a social instrumentality for the organization of economic life," and (2) a "tendency to identify the special interests of particular groups or industries with the national welfare."

THE FINAL chapter of Volume II discusses changes with respect to objectives, methods, and devices, this time with reference to special governmental treatment of private enterprise and direct governmental production of goods and services.

There are also brief summaries of current issues in the special areas. Finally, there are a number of general observations, a few of which seem to the reviewer worth quoting as they give some indication of the implicit position of the work as a whole.

Three quotations are selected: (1) "No aspect of the great elaboration of governmental functions during the past decade . . . is more significant than the tendency to consider limited parts of the economic system without adequate consideration of their interrelationship with other parts, and the inclination to appraise limited phases of public policy without a proper understanding of their

bearing on other phases." (2) "It has by no means been demonstrated by economic analysis, much less by practice, that the means now in operation for meeting the fundamental and serious problem of unemployment, or the more extreme measures which have been proposed, will do more to meet the situation than the less elaborate programs of the early thirties." (3) "As the range of public control is extended, the factors which need to be taken into consideration in framing and in administering policy become so numerous and so complex that they may outgrow the capacity of individuals to comprehend them".

WITH THESE statements, the reviewer cannot fully concur. In his opinion, there has been in the last decade an increased appreciation of the impact of public action on the economy as a whole by Government administrators and economists, and an increased competence to deal with national problems of production and

employment. It is, of course, true that the limitations of human capacity circumscribe the task of the public servant, but they likewise hamper the general economist in his never-ending task of attempting to reduce the complex of the Government and economic life to an understandable scheme.

These volumes are difficult to appraise. They cover a great number of complex subjects; a large number of collaborators were involved; and the whole project was carried out under the pressure of a time schedule. The final product is somewhat more of a textbook than the reviewer had anticipated, but it should nevertheless be on the shelves of those who wish to keep abreast of public policy. Finally, the reviewer believes the decision to eschew considerations of "soundness" was unwise, as their presence would have given more point to the whole undertaking and certainly would have been welcomed by all who are concerned with the future of our economic society.

For your attention

ECONOMIC NATIONALISM, TRADE BARRIERS AND THE WAR. 110 pp. Academy of Political Science. Volume XIX, No. 1. New York. 1940.

Under the clouds of the war, Government experts, university professors and representatives of industry and labor came together at the semiannual meeting of the Academy of Political Science in New York City on

April 11, 1940, to appraise recent attempts to break through the barriers of economic nationalism. The European war placed an extraordinary restraint upon their predictions concerning the future of international trade. All agreed that much depends on the outcome of the present conflict. Differences cropped up as to how far our national commercial policy may deviate from protectionist principles in a "mercantilist, nationalist, bellicose world."



POPULATION TRENDS AND ADJUSTMENTS IN ARKANSAS. Wm. H. Metzler. 59 pp. University of Arkansas Agricultural Experiment Station. Fayetteville, Ark. 1940.

Arkansas, predominantly rural and agricultural, has population problems in both types of regions.

The writer finds that birth rates in the rural districts are high in relation to the ability of the area to support population and that unless there is heavy migration out of these high-birth-rate counties, standards of living in those places will be cut in half within the next 50 years. A reliable public agency to which people could go for guidance about migration is a felt need.

The disparity between high nonfarm incomes and low farm incomes is termed pathological. "This disparity is so great that, if continued, it will tend to produce a situation of gradual impoverishment on one hand and of accumulation on the other. Impoverishment of the agricultural population, however, must inevitably limit the prosperity of the urban population as well."

A RURAL SCHOOL AREA IN CENTRAL SOUTH CAROLINA. Henry L. Fulmer. 44 pp. South Carolina Agricultural Experiment Station. Clemson, S. C. Bulletin 325. 1940.

Mr. Fulmer examines the educational progress of the youth and the economic and sociological conditions of the families in 15 rural school districts of Lexington County, S. C. He finds that the elementary schools are top heavy with lay management and are in need of educational leadership, that the rural elementary schools are not receiving the benefits of library service, recreational services, health education, or the proper instruction in food and diet problems, and that the rural school districts are in need of county, State, and Federal aid for building, equipment, and transportation cost.

OUR NATIONAL RESOURCES. National Resources Planning Board. 45 pp. Washington, D. C. 1940.

From its technical reports, from studies of other Government agencies and from

other authoritative sources, the National Resources Planning Board has developed this pamphlet. The Board has recorded statements of the facts about our resources—population, transportation, land, health, education, public works—and their problems. Though brief, the presentation contains the significant figures and problems of America's assets, both material and institutional. The National Resources Planning Board is an advisory agency responsible for planning the conservation and wise use of our resources.

URBAN LAND APPRAISAL. National Association of Assessing Officers. 170 pp. Chicago. 1940.

The assessor confronted with the problem of adopting a system of urban land valuation will find this book a practical guide. Analysis is made of the principles underlying the rules and procedures now employed in compiling land value data. Thus the thousands of assessment districts now assessed with little or no method at all can benefit from the methods used by large metropolitan areas.

NATIONAL RESOURCES FOR FUTURE AMERICANS. Charles W. Eliot, Director, National Resources Planning Board. Address before the Progressive Education Association, Chicago, Illinois. 14 pp. 1940.

School is no longer a place where boys and girls merely learn the three R's. It is rapidly becoming the spot where children are being prepared for living. Educators, then, especially progressive educators, will need to bring to the attention of their young students the problems most likely to be met. One of the greatest of these, says Mr. Eliot, will be the task of future citizens to make the best use of America's human and natural resources. An aging population, high illness and accident rates, exploited forests and soils, farm tenancy, farmers with heavy mortgages and debts, exhausted mineral and fuel resources, have created problems which the next generation must face. It is this new kind of geography which Mr. Eliot would teach young Americans if our human resources are to be combined with our natural resources to promote a higher standard of living.

